

CHARACTERIZATION OF RED WINES WITH DESIGNATION OF ORIGIN ALENTEJO AND GEOGRAFICAL INDICATION ALENTEJO

António Carloto ^{o *}, Luís Amorim ^{* *}, Anabela Amaral ^{*}, Maria Antónia Cota ^{* *}

^o Contact author – acarloto@ipbeja.pt, ^{*} Polytechnic Institute of Beja, ^{* *} CVRA



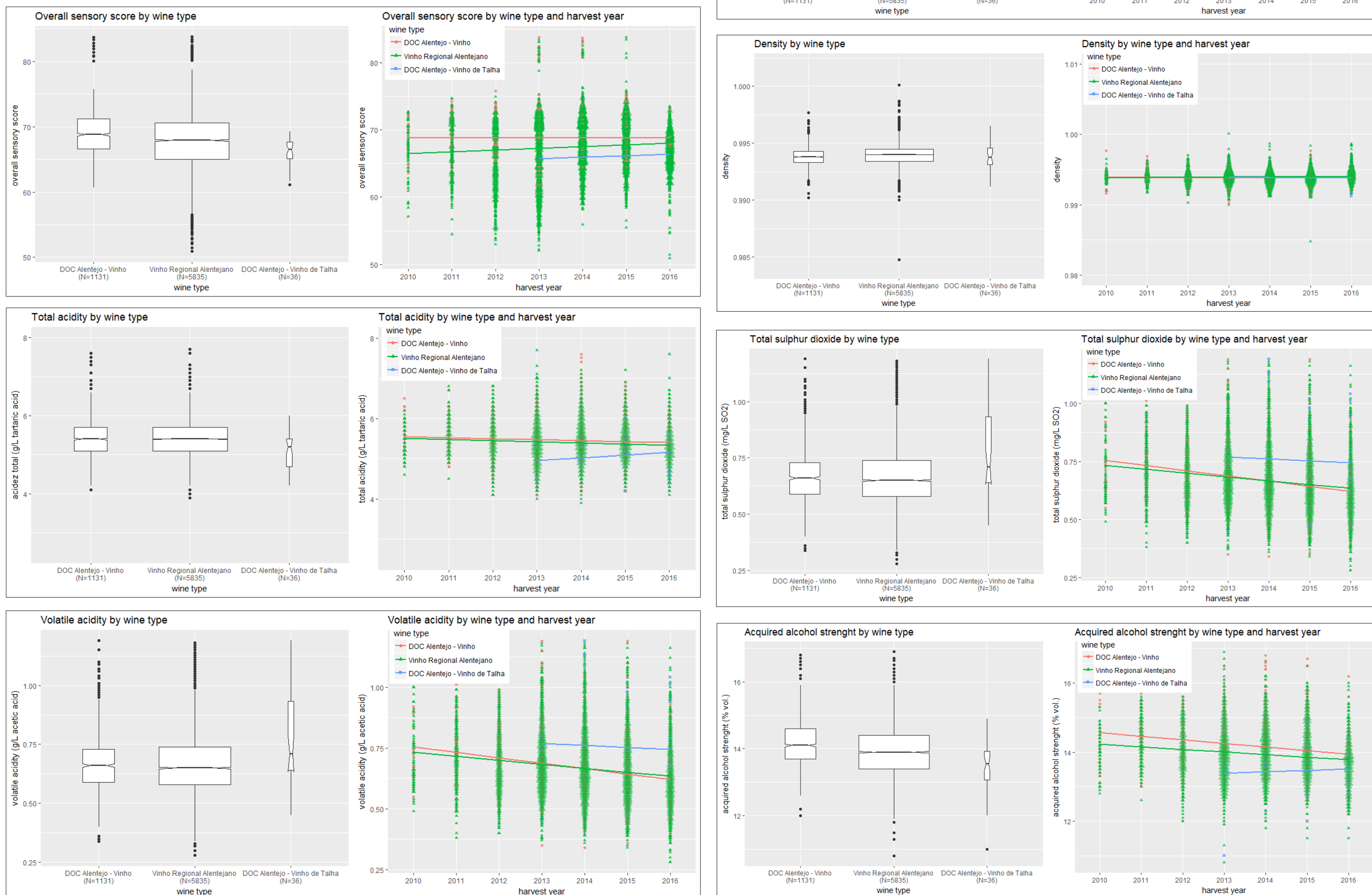
INTRODUCTION

The aim of this work was to characterize red wines submitted to the certification process done by the Alentejo Regional Wine Commission (CVRA) over several years. The reason of being of a demarcated winegrowing region is grounded on the singularity of their wines conferred by the local characteristics, such as the grape varieties used, the edaphoclimatic conditions and the associated cultural heritage. To establish the fingerprint of the Designation of Origin Alentejo and Geografic Indication Alentejo red wines, is essential both its sensory evaluation and its physical-chemical characterization. It is also interesting to compare the different types of wines in this region and to follow the evolution of its parameters throughout the harvest years.

DATA SET AND METHODS

The results of the sensory evaluation and seven physical-chemical parameters of samples associated with the process of certification of red wines performed by CVRA, concerning the harvest years of 2010 to 2016, were studied. The parameters for red wines D.O.C. Alentejo (N = 1131), Regional Wine Alentejo (N = 5835) and D.O.C Alentejo – Talha Wine (N = 36) were compared, using statistical methods of exploratory analysis, as regards the overall sensory score, total acidity ,volatile acidity, pH, total sugars, density, total sulphur dioxide, and acquired alcoholic strength. All the programming and graphics were done with R (<https://cran.r-project.org/>) in a RStudio environment (<https://www.rstudio.com/>).

RESULTS



DISCUSSION AND CONCLUSION

The parameters for red wines D.O.C. Alentejo, Regional Wine Alentejo and D.O.C Alentejo – Talha Wine, were compared, using statistical methods of exploratory analysis, as regards the **overall sensory score** (medians 68,80/67,91/66,48), **total acidity** (medians 5.4/5.4/5.2 g/L tartaric acid), **volatile acidity** (medians 0,66/0,65/0,71 g/L acetic acid), **pH** (medians 3,64/3,67/3,70), **total sugars** (medians 0.6/0.6/0.4 g/L G + F), **density** (medians 0,9938/ 0,9940/0,9938), **total sulphur dioxide** (medians 71/70/69 mg/L SO₂) and **acquired alcoholic strength** (medians 14.1/13,9/13,6 % vol.). The evolution of these parameters was also studied over the years of harvesting. It was observed that D.O.C. Alentejo and Regional Alentejo wines display very similar median values of the various parameters, and that many of these variables have similar trends of evolution, in successive years of harvesting. As for the D.O.C. Alentejo – Talha Wine, still in comparatively smaller production, exhibit a differentiated pattern from the other two types, more irregular, which is consistent with their traditional production mode.